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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/695,457 | 10/24/2000 | Rehan M. Khan | M-8758 US | 2847 |
| 36257 | 7590 | 04/21/2005 | EXAMINER | |
| PARSONS HSUE & DE RUNTZ LLP 655 MONTGOMERY STREET SUITE 1800 SAN FRANCISCO, CA 94111 | | | LAO, LUN S | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2643 | |

DATE MAILED: 04/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------------|------------------------------------|--|
| Office Action Summary | Application No. 09/695,457 | Applicant(s) KHAN ET AL. | |
| | Examiner Lun-See Lao | Art Unit 2643 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 November 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 16-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 16-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Introduction

1. This action is response to requirement for restriction filed on 11/17-2004. claims 16-24 are pending.

Drawings

2. New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application because applicant summated figs 6a,10a which are informal drawings. The formal drawings are required. Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claims 17, 18, 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 17, 18, 20 recite "the audio samples spectrum" in lines 1-2. There is insufficient antecedent basis for this limitation in the claims.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 16, 18 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Ellis (US PAT. 5,612,729).

Consider claim 16, Ellis teaches teaches a method for determining audio signatures for input audio samples, comprising:

extracting plural features representing the input audio samples; wherein the features are extracted by Fourier transform analysis (see figs 7a,7b,8 and col.19 lines 5-58).

Consider claim 18 and 21, Ellis teaches the features include spectral rolloff of the audio samples spectrum (see col.19 lines 5-59); and the features include sub-band energy vectors (such as Fourier transform) of the input audio samples (see col.19 line 5-59).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 17 and 19-20, 22 –24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ellis(US PAT. 5,612,729) in view of Scheirer (US PAT. 6,570,991).

Consider claims 17 and 19 Ellis does not clearly teach the features include spectral centroid of the audio samples spectrum; and the features include spectral flux

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of the input audio samples; and the features include peak ratio of the audio samples spectrum; and the features include sub-band energy vectors of the input audio samples.

However, Scheirer teaches the features include spectral centroid of the audio samples spectrum (see figs. 3a,3b and see col.5 line 60-67); and the features include spectral flux of the input audio samples (see figs. 4a,4b and col.6 line 17—28)); and the features include peak ratio of the audio samples spectrum (see figs,3a-6a, 3b-6b and col.5 line 60-col.6 line 50); and the features include sub-band energy vectors of the input audio samples (see figs. 3a-7a, 3b-7b, 9a-10a, 9b-10b and 13 col.5 line 60-col.6 line 65, col.8 lines 10-29 and col.12 line 10-col.13 line 6).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Scherirer into Ellis to provide a system can be selectively employed to distinguish speech content from music in an audio signal.

Consider claim 23, Ellis does not clearly teach the method of further comprising: identifying a set of representative points based upon the plural features; and determining a code book of plural elements for mapping the representative points to the elements of the code book.

However, Scheirer teaches the method of further comprising: identifying a set of representative points based upon the plural features (such as speech and music); and determining (comparing) a code book of plural elements (such as speech and music) for mapping (labeled) the representative points to the elements of the code book (such as speech and music and see col. 8 line59-col.9 line 40).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Scherirer into Ellis to provide a system can be selectively employed to distinguish speech content from music in an audio signal.

Consider claim 24, Scheirer teaches that method of further comprising: compressing (such as a strict nearest neighbor points) a string of characters denoting the representative points as elements in the code book (such as speech and music and see col.9 line 41-col.10 line 67).

9. Claims 23 –24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ellis(US PAT. 5,612,729) in view of Nishiguchi (US PAT. 5,960,388).

Consider claim 23, Ellis does not clearly teach the method of further comprising: identifying a set of representative points based upon the plural features; and determining a code book of plural elements for mapping the representative points to the elements of the code book.

However, Nishiguchi teaches the method of further comprising: identifying (see fig.39,712) a set of representative points based upon the plural features; and determining (see fig.39, 712) a code book of plural elements (such as voice and unvoice) for mapping (by Fourier transform) the representative points to the elements of the code book (fig.39, 715 and col.45 line 40-col.46 line 65).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Nishiguchi into Ellis to provide a high efficiency encoding method whereby the size of the codebook for the vector quantizer or the operation volume for codebook search can be diminished without lowering the number of the output bits of vector quantization, and whereby the compression ratio at the time of vector quantization can be increasing further.

Consider claim 24, Nishiguchi teaches that method of further comprising: compressing (see fig.39, 713) a string of characters denoting the representative points as elements in the code book (fig.39, 715 and col.45 line 40-col.46 line 65).

Response to Amendment

10. Applicant's election with traverse of claims 1-15 and 25-29 Paper No. 1 is acknowledged. Applicant' argued that the restriction is not proper. This is not found persuasive because. The examiner believes that the Group I. Claims 1-15 and 25-29, drawn to digital audio data processing system, classified in class 700, subclass 94.

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Group II. Claims 16-24, drawn to spectral adjustment. The unwanted signal is either at least partially removed by processing a selected frequency band, such as by subtracting the contents of a particular frequency band from the input signal, or is overcome by preemphasis of a particular frequency or band to enhance the signal to noise ratio, classified in class 381, subclass 94.2.

Inventions I and II are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, invention II has separate utility such as digital audio data processing/ spectral adjustment. See MPEP § 806.05(d).

Therefore, these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

The requirement is still deemed proper and is therefore made FINAL.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Gjerdingen (US PAT. 6,539,395); and George Tzmnetakis; Perry Cook; "Multifeature Audio Segmentation for Browsing and Annotation"; Pages W99-1 - W99..4; Proc. 1999 IEEE Workshop on Applications of Signal Processing to Audio and Acousécs. New Paltz. New York. Oct. 17-20. 1999 are cited to show other related the Method and system for analyzing digital audio files.

12. Any response to this action should be mailed to:

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Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450
Facsimile responses should be faxed to:
(703) 872-9306
Hand-delivered responses should be brought to:
Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lao,Lun-See whose telephone number is (571) 272-7501. The examiner can normally be reached on Monday-Friday from 8:00 to 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz, can be reached on (571) 272-7499.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 whose telephone number is (571) 272-2600.

Lao,Lun-See
Patent Examiner
US Patent and Trademark Office
Knox
571-272-7501


DUC NGUYEN
PRIMARY EXAMINER